

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A method of regulating cell survival comprising the step of altering levels of huntingtin function.
2. Use of a protein according to the method of claim 1, to modulate cell death or cell proliferation in a mammal having a condition characterised by a dysregulation of cell death or cell proliferation, wherein said protein is selected from the group consisting of huntingtin and a biologically active fragment of huntingtin protein.
3. Use of a nucleic acid encoding huntingtin, or a biologically active fragment thereof, according to the method of claim 1, to modulate cell death or cell proliferation in a mammal having a condition characterised by a dysregulation of cell death or cell proliferation.
4. Use of an antagonist of huntingtin according to the method of claim 1, to modulate cell proliferation in a mammal having a condition characterised by a dysregulation of cell proliferation.
5. The use according to claim 2 or 3, wherein said protein inhibits cell death.
6. The use according to any one of claims 2, 3 or 4, wherein said protein inhibits cell proliferation.
7. The use according to any one of claims 2, 3 or 5, wherein said condition is a neurodegenerative disease.
8. The use according to claim 7, wherein said neurodegenerative disease is Huntingtin's disease, any other polyglutamine disorder, Alzheimer's disease, amyotrophic lateral sclerosis or Parkinson's disease.

WO 01/79283

PCT/CA01/00495

9. The use according to any one of claims 2, 3, 4 or 6, wherein said condition is cancer.
10. The use according to claim 9, wherein said cancer is a germ cell cancer.
- 5 11. The use according to claim 10, wherein said germ cell cancer is testicular cancer.
12. The use according to claim 4, wherein said antagonist is an antisense oligonucleotide.
- 10 13. The use according to claim 4, wherein said antagonist is an anti-huntingtin antibody.
14. The use according to claim 4, wherein said antagonist is a small molecule that binds to huntingtin or to a nucleic acid encoding huntingtin.
- 15 15. A nucleic acid encoding a biologically active fragment of huntingtin protein.
16. An antagonist of huntingtin.
- 20 17. The antagonist according to claim 16 which is an antisense oligonucleotide.
18. The antagonist according to claim 16 which is an anti-huntingtin antibody.
- 25 19. The antagonist according to claim 16 which is a small molecule that binds to huntingtin or to a nucleic acid encoding huntingtin.
20. A pharmaceutical composition comprising a pharmaceutically acceptable excipient and huntingtin, a biologically active fragment of huntingtin, or a combination thereof.
- 30 21. A pharmaceutical composition comprising a pharmaceutically acceptable excipient and a nucleic acid encoding huntingtin, a nucleic acid encoding a biologically



32. An assay for screening for molecules having an anti-proliferative activity comprising the steps of:
  - (a) transfecting NIH3T3 cells with huntingin;
  - 5 (b) culturing the transfected cells in the presence and absence of a candidate molecule;
  - (c) comparing proliferation of the transfected cells in the presence of the candidate molecule with proliferation of the transfected cells in the absence of the candidate molecule,
  - 10 wherein an anti-proliferative activity is identified a decrease in the proliferation of the transfected cells in the presence of the candidate molecule in comparison to the proliferation of the transfected cells in the absence of the candidate molecule.
33. The assay according to claim 32, wherein in step (b) the transfected cells are  
15 cultured in a state of contact inhibition.
34. The assay according to claim 32, wherein in step (b) the transfected cells are cultured in soft agar.
- 20 35. The assay according to claim 32, wherein in step (b) the transfected cells are cultured in an animal.
36. The assay according to claim 35, wherein in said animal is a mouse.